shunt < 2mm) of the ASD in 95.8% of 48 patients in whom the ASO was implanted and 96.1% of 26 surgical patients. Although surgical ASD closure was performed in younger patients (p<0.005) with slightly larger defects (p=0.02), there was no significant difference between the 2 groups in average Qp/Qs ratio (p=0.3). There were no deaths in either group. Complications occurred in 10.4% of patients in whom the ASO was implanted, all of which were minor, and 42.3% of patients who underwent surgery, 2 of which were major. The mean estimated cost (in FY2000 U.S. dollars) per case treated with the ASO was $11,541 (+/- $2,380), as compared with $22,695 (+/- $6,250) per case treated surgically (p<0.005). The average length of hospital stay per case treated with the ASO was 1.0 day (+/-0.2), as compared with 6.2 days (+/-3.0) per case treated surgically (p<0.005). Sensitivity analyses based on our data identified no plausible situations in which the costs of surgery and of implantation of the ASO would be equal.
Conclusions: The equally effective and less costly Amplatzer septal occluder appears superior to surgical closure of isolated secundum atrial septal defects in qualifying patients. The transcatheter method is also associated with significantly less morbidity. Consequently, our results support the use of the Amplatzer septal occluder as an alternative to surgery for the management of this common congenital lesion.

1048-169 Are Minimal Elevations of Postoperative Cardiac Troponin I Levels Following General Surgery Prognostically Important?

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Introduction: Cardiac troponin I has a high specificity for cardiac injury, because cardiac-specific antibodies do not cross-react with skeletal muscle isoforms of troponin I. Cardiac troponin I elevations >0.1 ng/ml have important prognostic value in patients with acute coronary syndrome. However, the significance of troponin I levels between 0.1 and 2.5 ng/ml in patients following general surgery is unclear.
Methods: We retrospectively reviewed medical records of 304 patients who had undergone abdominal, orthopedic, and other general surgical procedures in our institution between 7/99 and 6/00. Patients with clinical evidence of acute coronary syndrome or myocardial infarction were excluded from the study. We identified 167 patients with a measurable post-operative (OP) peak troponin level between 0.1 and 2.5 ng/ml. The cardiac troponin I levels were obtained with a chemiluminescent technique on the Bayer ACS Centaur immunoassay analyzer (Bayer Corp., East Walpole, MA). Troponin I levels suggested a non-linear tendency, so log transform of troponin I levels was used to analyze data by Pearson's correlation, the Student-t test, and ANOVA.
Results: Out of 167 patients, 48% were men and 52% were women with mean age of 72.9±13.1 (range 26 to 99) years, 33.5% were on β-blockers, and 70.1% had abnormal post-OP electrocardiograms, with a mean follow-up of 303.5±239.3 (range 0 to 737) days. There were significantly more complications at one month, two months and three months post-OP with more elevated troponin I levels t=21.2, p<0.001; t=22.0, p<0.001 and t=18.5, p<0.001, respectively. Complications during the first three post-OP months included 4 acute myocardial infarctions, 8 cases of congestive heart failure, and 19 deaths. Most of the troponin I elevations occurred in older patients, in patients not treated with pre-OP β-blockers (t=21.8, p<0.001), in patients with abnormal post-OP electrocardiograms (t=31.3, p<0.001), and especially in men (t=22.7, p<0.001).
Conclusions: Minor elevations in cardiac troponin I levels in patients undergoing general surgical procedures strongly affect the post-OP outcome, especially during the first three months.

1048-170 Cost of Abdominal Aortic Aneurysm Repair in Canada and the United States

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Background: Many studies have compared health care costs in Canada and the United States (U.S.) on a macroeconomic level. However, little is known about the costs of specific procedures. We therefore performed a microeconomic comparison of costs in abdominal aortic aneurysm (AAA) repair among Canadian and American patients.
Methods: We compared the costs of treating 1,077 consecutive AAA repair patients (556 Canadian and 521 American) from 4 Canadian and 6 U.S. hospitals between 1997 and 2001. All participating hospitals used the same cost accounting system to provide per-patient demographic, clinical, and cost data (excluding physician's fees). Canadian dollar costs were converted to U.S. dollar costs using purchasing power parities.
Results: The mean age of AAA repair patients was similar in Canadian and American hospitals (69.9 ± 11.3 vs. 71.1 ± 15.0years, p=ns) as was sex distribution (79.1% vs. 76.0%, p=ns). The mortality rate in Canada was 12.1% vs. 10.0% (p=ns). Cost for AAA repair differed between Canadian and American hospitals. The median cost for AAA repair was $9,407 (mean $15,866 ± $18,631) in Canada as opposed to $13,802 (mean $24,582 ± $37,001) in the U.S. (p<0.0001). Direct costs accounted for 56.8% of total costs in the U.S. versus 67.1% in Canada.
Conclusion: There is an approximate twofold difference in cost of AAA repair between the U.S. and Canada. Both direct and indirect costs are lower in Canada but direct costs make up a higher percentage of total cost than they do in the U.S. This cost discrepancy cannot be explained by differences in patient demographics or rates of in-hospital complications.

POSTER SESSION

1073 Outcome of Percutaneous Coronary Intervention

Sunday, March 17, 2002, 3:00 p.m.-5:00 p.m.
Georgia World Congress Center, Hall G
Presentation Hour: 4:00 p.m.-5:00 p.m.

1073-163 Predictors of Hospital Outcome After First Percutaneous Coronary Intervention in the Community

Audrey H. Wu, J. Richard Goss, Charles Maynard, Douglas K. Stewart, Xue-Qiao Zhao, *University of Washington, Seattle.*

Background: Previous studies of hospital outcomes after first percutaneous coronary intervention (PCI) were performed prior to significant advances in PCI practice, or were performed in a retrospective or controlled manner. We examined the combined outcome of post-procedural myocardial infarction (MI) or in-hospital death after first PCI in a prospective manner, as currently practiced in the community. **Methods**: The Clinical Outcomes Assessment Program is a prospective, ongoing statewide database that includes consecutive patients undergoing isolated PCI in Washington state (19 sites). Data from 1/1/99 to 1/1/00 were obtained from COAP. Multivariate logistic regression modeling was used to determine risk of the combined outcome. **Results**: A total of 17,193 cases of first PCI were identified, including 11,399 (67.4%) males, with an average age of 63.9 ± 12.2 years. 3737 (21.9%) subjects had diabetes, 9946 (58.8%) had hypertension, and 2859 (16.7%) had prior coronary bypass surgery. Significant predictors of the combined outcome include older age (20 year increments; adjusted OR 1.31; 95% CI 1.07, 1.60), shock (adjusted OR 2.73; 95% CI 1.70, 4.38), and more urgent priority vs. elective status (urgent – adjusted OR 1.74; 95% CI 1.18, 2.56; emergent – adjusted OR 5.95; 95% CI 4.10, 8.65; salvage – adjusted OR 29.46; 95% CI 10.80, 80.31). PCI by stent vs. angioplasty predicted lower incidence of the combined outcome (adjusted OR 0.69; 95% CI 0.51, 0.93). Gender, history of diabetes, and treatment with glycoprotein (GP) IIb/IIIa inhibitors were not significantly associated with risk for the combined endpoint. **Conclusion**: Similar to previously published findings from retrospective series and clinical trials, several factors - including older age, shock, and more urgent priority - were associated with increased risk of post-procedural MI or in-hospital death among patients undergoing first PCI in the community. The lack of benefit seen with treatment with GP IIb/IIIa inhibitors in the combined in-hospital endpoint may not necessarily contradict published findings, which primarily report improved intermediate-term outcomes.

1073-164 Predictors of Repeat Percutaneous Coronary Intervention Within One Year After First Percutaneous Coronary Intervention

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Background: Prior studies of repeat revascularization after first percutaneous coronary intervention (PCI) were performed in a retrospective or controlled manner, and were performed prior to recent advances in PCI practice. We determined the risk factors for revascularization by repeat PCI after first PCI in a prospective manner, as currently practiced in the community. **Methods**: The Clinical Outcomes Assessment Program is a prospective, ongoing database that includes consecutive patients undergoing PCI in Washington state (19 sites). Data from 1/1/99 to 1/1/00 were analyzed. Repeat PCI was defined as a second PCI performed in the same coronary vessel territory 2-12 months after a first PCI. Multivariate logistic regression modeling was used to determine risk of repeat PCI. **Results**: 17,193 cases of first PCI were identified, including 11,399 (67.4%) males, with an average age of 63.9 ± 12.2 years. 3737 (21.9%) subjects had diabetes and 2859 (16.7%) had prior coronary bypass surgery (CABG). 12,619 (82.6%) PCI procedures were stents. Glycoprotein IIb/IIIa inhibitors (GP2B3AI) were used in 11,569 (67.9%) first PCI procedures. There were 924 cases of second PCI performed in any coronary vessel territory. Of these, 373 (40.4%) were repeat PCI. Prior CABG (adjusted OR 1.59; 95% CI 1.18, 2.15) and chronic obstructive pulmonary disease (COPD) (adjusted OR 1.67; 95% CI 1.13, 2.48) significantly predicted repeat PCI. Lower incidence of repeat PCI was significantly associated with emergent vs. elective priority (adjusted OR 0.55; 95% CI 0.35, 0.88), use of GP2B3AI (adjusted OR 0.63; 95% CI 0.48, 0.81), and older age (20 year increments; adjusted OR 0.70; 95% CI 0.57, 0.86). History of diabetes was not significantly associated with risk of repeat PCI. **Conclusion**: In current community practice, treatment with GP2B3AI at the time of first PCI is one of the strongest predictors of freedom from repeat PCI in the same coronary vessel distribution up to one year afterwards. Our data did not include repeat revascularization by CABG, which may explain why older age predicted a lower incidence, COPD predicted a higher incidence, and diabetes was not significantly associated with repeat PCI.

1073-165 Low Body Mass Index Is an Important Correlate of Fatal and Nonfatal Complications After Percutaneous Coronary Interventions

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Body Mass Index (BMI) has been found to be a risk factor for complications following coronary artery bypass surgery (CABG). There are currently no data on the relationship between BMI and complications following percutaneous coronary interventions (PCI). Thus, we evaluated the relationship between BMI and in-hospital outcomes of patients